

WHAT IS CLAIMED IS:

1. A method for allocating application processing operations among information handling system cluster resources in response to a fail-over event, comprising:
  - 5 identifying a performance ratio between a failing-over cluster node and a fail-over cluster node;  
transforming a first calendar schedule associated with failing-over application processing operations into a second calendar schedule to be associated with failing-over application processing operations on the fail-over cluster node in accordance with the performance ratio;  
10 and  
implementing the second calendar schedule on the fail-over cluster node such that the fail-over cluster node may effect failing-over application processing operations according to the second calendar schedule.
2. The method of Claim 1, further comprising  
determining whether resources on the fail-over cluster  
20 node are sufficient to support failing-over application processing operations in accordance with the second calendar schedule in addition to any existing fail-over cluster node application processing operations.

3. The method of Claim 2, further comprising  
applying a resource negotiation algorithm to the  
application processing operations of the fail-over node  
in response to determining that the resources of the  
5 fail-over cluster node are insufficient to support both  
failing-over application processing operations in  
accordance with the second calendar schedule and any  
existing fail-over cluster node application processing  
operations.

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4. The method of Claim 3, further comprising:  
calculating a new calendar schedule for the  
fail-over node application processing operations based on  
results from application of the resource negotiation  
15 algorithm; and  
implementing the new calendar schedule on the  
fail-over node.

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5. The method of Claim 1, further comprising:  
identifying at least one characteristic of the  
failing-over cluster node;  
identifying at least one characteristic of the  
fail-over cluster node; and  
calculating the performance ratio between the  
25 failing-over cluster node and the fail-over cluster node  
based on the identified characteristics of each node.

6. The method of Claim 1, further comprising  
collecting information handling system cluster node  
resources required by at least one application to be  
deployed in an information handling system cluster  
5 configuration.

7. The method of Claim 1, further comprising  
maintaining a knowledge-base containing information  
regarding one or more operational aspects of the  
10 information handling system cluster.

8. The method of Claim 7, further comprising  
determining whether the first calendar schedule for a  
selected cluster node is feasible using operational  
15 aspects of the selected cluster node available in the  
knowledge-base.

9. The method of Claim 1, further comprising  
updating an application-to-cluster node map identifying  
20 the cluster node associated with each application  
following the allocation of application processing  
operations among the information handling system  
resources in response to a fail-over event.

10. A system for maintaining resource availability in response to a fail-over event, comprising:

an information handling system cluster including a plurality of nodes;

5 at least one storage device operably coupled to the cluster; and

a program of instructions storable in a memory and executable in a processor of at least one node, the program of instructions operable to identify at least one  
10 characteristic of a failing node and at least one characteristic of a fail-over node, calculate a performance ratio between the failing node and the fail-over node, transform a processing schedule for at least one failing-over application to a new processing  
15 schedule associated with failing-over application processing on the fail-over node in accordance with the performance ratio and implement the new processing schedule for the failing-over application on the fail-over node.

20 11. The system of Claim 10, further comprising the program of instructions operable to gather node resource requirements for at least one application to be deployed in the cluster.

25 12. The system of Claim 11, further comprising the program of instructions operable to gather resources available on at least one node of the cluster.

13. The system of Claim 12, further comprising the program of instructions operable to verify that the resources of a selected node are sufficient to perform processing operations in accordance with the resource  
5 requirements of at least one application to be deployed on the selected node.

14. The system of Claim 10, further comprising the program of instructions operable to:  
10 evaluate application processing resources available on the fail-over node; and  
determine whether the application resources available on the fail-over node are sufficient to perform processing operations for the failing-over application in  
15 accordance with the new processing schedule and any existing fail-over application processing operations.

15. The system of Claim 14, further comprising the program of instructions operable to:  
20 apply a resource negotiation algorithm to at least the new processing schedule in response to a determination that the application processing resources of the fail-over node are insufficient to support both the processing schedule of the failing-over application  
25 and any existing fail-over applications;  
calculate at least one modified processing schedule in accordance with results of the resource negotiation algorithm; and  
implement the modified processing schedule on the  
30 fail-over node.

16. The system of Claim 15, further comprising the  
program of instructions operable to apply the resource  
negotiation algorithm to the new processing schedule for  
the failing-over application and at least one existing  
5 fail-over node processing schedule.

17. Software for allocating information handling  
system resources in a cluster in response to a fail-over  
event, the software embodied in computer readable media  
5 and when executed operable to:

access a knowledge-base containing application  
resource requirements and available cluster node  
resources;

calculate a performance ratio between a failing node  
10 and a fail-over node;

develop a new processing schedule for a failing-over  
application on the fail-over node in accordance with the  
performance ratio; and

queue the failing-over application for processing on  
15 the fail-over node in accordance with the new processing  
schedule.

18. The software of Claim 17, further operable to:  
gather resource requirements for each application in  
20 the cluster selected for fail-over protection; and  
store the application resource requirements in a  
static data portion of the knowledge-base.

19. The software of Claim 18, further operable to:  
25 gather available resource information for each  
cluster node selected for operation as a fail-over node;  
and  
store the available node resource information in the  
static data portion of the knowledge-base.

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20. The software of Claim 19 further operable to  
determine whether a selected node includes resources  
available to support a processing schedule for a selected  
application based on the resource requirements of the  
5 application and the available resources on the node from  
information maintained in the knowledge-base.

21. The software of Claim 17, further operable to  
determine whether the new processing schedule may be  
10 supported by the fail-over node.

22. The software of Claim 21, further operable to:  
apply a resource negotiation algorithm to each  
processing schedule associated with the fail-over node;  
15 generate new processing schedules for applications  
to be executed by the fail-over node; and  
queue the applications to be executed by the  
fail-over node in accordance with resource negotiation  
algorithm generated processing schedules.

20 23. The software of Claim 17, further operable to  
update an application-to-node map contained in the  
knowledge-base.